

Recovery Plan Action Status

Plan Name: Recovery Plan for San Bruno Elfin and Mission Blue Butterflies

Plan Status: Final

Plan Date: 10-Oct-84

Lead Agency: USFWS

Lead Office: Sacramento Fish And Wildlife Office

(916)

414-8600)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	1	11	Secure essential habitat on San Bruno Mountain through cooperative agreements, easements or other protection strategies	Partially Complete	Prior to FY 1995		San Mateo County, California, Visitacion Associates, City of Brisbane, California, U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Acquisition: Fee Title	Contract	Includes tasks 111-119. Habitat Conservation Plan accomplishes this task. Amendment to the HCP may be necessary or additional long-term management plans may be required in the future. Covered under San Bruno Mtn. HCP. Acquisition paid for through the HCP.
Mission blue butterfly (Icaricia icarioides missionensis)	2	121	Secure essential habitat on San Bruno Mountain through cooperative agreements, easements, or other protection strategies	Complete	Prior to FY 1995	FY 2000 - FY 2004	San Mateo County, California, U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Acquisition: Other	Contract	Costs for implementing tasks 121-126 are largely administrative.
Mission blue butterfly (Icaricia icarioides missionensis)	2	123	Secure essential habitat outside San Bruno Mountain: California Department of Fish and Game - San Francisco State Fish and Game Refuge (Montara Mountain Area)	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Acquisition: Management Agreement	Internal Administrative	
Mission blue butterfly (Icaricia icarioides missionensis)	2	124	Secure essential habitat outside San Bruno Mountain: U.S. General Services Administration - Milagra Ridge	Partially Complete	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division	Acquisition: Fee Title	Contract	Easement dedicated in 2007 at Milagra Ridge that contains SB Elfin habitat.

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Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	2	126	Secure essential habitat outside San Bruno Mountain: Private property owners - Montara Mountain, Peak Mountain, Whiting Ridge, and Milagra Ridge	Partially Complete	Prior to FY 1995		San Mateo County, California, U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Acquisition: Fee Title	Contract	In 2007 a dedicated easement at Pacifica on Milagra Ridge provided security for host plant of San Bruno Elfin Butterfly.
San Bruno elfin butterfly (<i>Callophrys mossii bayensis</i>), Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	1	21	Minimize use of herbicides, insecticides, and other toxic substances	Unknown			City of San Francisco, San Mateo County, California, California Department of Fish and Game	Management: Habitat Maintenance and Manipulation	Contract	For tasks 21-25: County is lead agency on San Bruno Mountain, City of San Francisco is lead agency on Twin Peaks and CDFG is lead agency on other lands.
San Bruno elfin butterfly (<i>Callophrys mossii bayensis</i>), Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	1	22	Control ORV activity	Obsolete			San Mateo County, California, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	Twin Peaks Natural Area has installed barriers to off-road travel.
San Bruno elfin butterfly (<i>Callophrys mossii bayensis</i>), Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	1	23	Remove exotic weeds	Partially Complete	Prior to FY 1995		San Mateo County, California, California Department of Fish and Game	Management: Habitat Maintenance and Manipulation	Contract	Contract at San Bruno Mtn., NPS also removes exotics from their lands. SF Parks and Recreation actively removing exotics from Twin Peaks as part of recovery action/management plan.
San Bruno elfin butterfly (<i>Callophrys mossii bayensis</i>), Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	2	24	Manage habitat: Transplant selected native flora	Partially Complete	Prior to FY 1995		California Department of Fish and Game	Management: Habitat Maintenance and Manipulation	Contract	Some work at San Bruno Mtn., Wolfback, Milagra Ridge, Ft Baker, and Slacker Ridge. Some work is contract (SBM) other is NPS.
San Bruno elfin butterfly (<i>Callophrys mossii bayensis</i>), Mission blue butterfly (<i>Icaricia icarioides missionensis</i>)	2	25	Manage habitat: Improve seedling establishment of native flora	Partially Complete	Prior to FY 1995		California Department of Fish and Game	Management: Habitat Maintenance and Manipulation	Contract	Some work at San Bruno Mtn., Wolfback, Milagra Ridge, Ft Baker, and Slacker Ridge. Some work is contract (SBM) other is NPS.

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San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	311	Inventory butterflies and their foodplants	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Population Surveys	Contract	Annual surveys at San Bruno Mtn. since 1982. Some limited surveys on NPS lands, especially Marin Headlands. Focus is on Mission Blue and its food plant, as opposed to Elfin. Baseline at San Bruno Mtn for population survey, but other NPS lands do not have baseline surveys, focus is on the Mission Blue Butterfly rather than the San Bruno Elfin.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	312	Conduct annual surveys of butterflies, their foodplants, and degree of threat	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Population Surveys	Contract	Task begins FY 3. Annual surveys at San Bruno Mtn. since 1982. Some limited surveys on NPS lands, especially Marin Headlands. Focus is on Mission Blue and its food plant, as opposed to Elfin. Baseline at San Bruno Mtn for population survey, but other NPS lands do not have baseline surveys, focus is on the Mission Blue Butterfly rather than the San Bruno Elfin
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	313	Determine synecological relationships	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	Tasks to be completed in FY 4.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	314	Determine biological requirements of larval and adult foodplants	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Habitat Requirements	Graduate Student	

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San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	315	Investigate biology of tending ant species	Ongoing Current			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Other Information	Graduate Student	Tasks to be completed in FY 4. Incidental observations made at Marin Headlands in 2005 on Argentine ants. Stanford grad student studied ant/butterfly relationship for related species acmon blue and found Argentine ants operate as tending surrogates when native ants are displaced.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	316	Identify perturbation processes	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Management Techniques	Graduate Student	
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	321	Determine downlisting and delisting criteria: Determine necessary sizes of colonies	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: General	Contract	Tasks to be completed in FY 4.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	322	Determine downlisting and delisting criteria: Determine necessary habitat quality and quantity	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Work type not yet selected	Labor type not yet selected	Tasks to be completed in FY 4.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	2	331	Evaluate data and develop long-term management plans: San Bruno elfin and mission blue butterflies on San Bruno Mountain	Partially Complete	Prior to FY 1995		San Mateo County, California, U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Management Techniques	Contract	The HCP may require modifications as implementation proceeds. Updated management plans are produced every 5 years on San Bruno Mtn.
Mission blue butterfly (Icaricia icarioides missionensis)	3	332	Evaluate data and develop long-term management plans: San Bruno elfin butterfly on Montara Mountain, Peak Mountain, Whiting Ridge, and Milagra Ridge	Not Started			San Mateo County, California, U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Management Techniques	Contract	

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San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	41	Reestablish San Bruno elfin and mission blue butterflies in restored and rehabilitated habitat: Select potential sites	Partially Complete	FY 2007		U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Reintroduction	Contract	San Francisco Parks and USFWS funded Dr. Stu Weiss to assist in reintroduction of Mission Blue at Twin Peaks Park.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	42	Reestablish San Bruno elfin and mission blue butterflies in restored and rehabilitated habitat: Secure selected sites through cooperative easements or other protective strategies	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division	Acquisition	Contract	Task is to be completed in FY 4. Cost to be determined.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	43	Reestablish San Bruno elfin and mission blue butterflies in restored and rehabilitated habitat: Restore habitat sites	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Acquisition: Exchange, Management: Habitat Maintenance and Manipulation	Contract	Task to be completed in FY 5. Cost to be Determined. Includes 431 and 432. Marin Headlands and Milagra Ridge. Twin Peaks park habitat was enhanced for a spring 2009 release of the Mission Blue Butterfly. Recovery Action plan for TWIn Peaks is a long term management plan for maintaining habitat for the mission blue.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	44	Reestablish San Bruno elfin and mission blue butterflies in restored and rehabilitated habitat: Obtain butterflies and reintroduce into restored sites	Ongoing Current	FY 2007		U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Research: Reintroduction	Contract	Task to be completed in FY 7. Cost to be Determined. First round of reintroduction completed in FY2009 at Twin Peaks Natural Area with females translocated from San Bruno Mountain.

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San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	51	Increase public awareness: Prepare TV and radio spot programs	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division	Other: Information and Education	Internal Technical Assistance	Bay area news media has run information on mission blue as part of reintroduction effort in FY2009.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	3	52	Increase public awareness: Prepare and distribute brochures and audio-visual programs on preservation and recovery	Not Started			San Mateo County, California	Other: Information and Education	Internal Field Assistance	
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	1	61	Enforce Federal laws	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Law Enforcement Division	Other: Law Enforcement	Internal Administrative	
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	1	62	Enforce State laws	Ongoing Current	Prior to FY 1995		California Department of Fish and Game	Other: Law Enforcement	Internal Field Assistance	
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	1	63	Enforce County zoning and growth restriction ordinances	Ongoing Current	Prior to FY 1995		San Mateo County, California	Other: Regulations	Internal Field Assistance	
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	1	64	Enforce City regulations and ordinances	Ongoing Current	Prior to FY 1995		City of San Francisco, City of Brisbane, California, City of Daly, California	Other: Regulations	Internal Field Assistance	Signs posted at Twin Peaks Natural Area advising users of restrictions.
San Bruno elfin butterfly (Callophrys mossii bayensis), Mission blue butterfly (Icaricia icarioides missionensis)	2	65	Evaluate effectiveness of current regulations and propose necessary revisions or new regulations	Not Started			U.S. Fish and Wildlife Service, Endangered Species Division, California Department of Fish and Game	Other: Regulations	Internal Field Assistance	